ABSTRACT OF THE DISCLOSURE

A technique is disclosed to detect a specified mark that has been rotated by an unknown number of degrees. To make the detection efficient, the dictionary stores the specified marks in predetermined formats including the coordinate conversion table and the polar coordinate image. Furthermore, the coordinate conversion table includes the central distance D scale value indicative of a distance between a center of each of the pixels and a center of the dictionary image in the predetermined XY coordinate and the central rotation direction F scale value indicative of a degree of rotation of the dictionary image.